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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,361	11/27/2001	James G. Small	RAYTP0160US	9031

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EXAMINER

LEE, BENNY T

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE  
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09/995361

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER NUMBER
	9

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☐ This application has been examined ☒ Responsive to communication filed on 22 May 2003 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), 30 days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892.       | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449  | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/>   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1, 2, 5-10, 18-31 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☒ Claims 3, 4, 11-17 have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1, 2, 5-10, 18-31 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are: ☐ acceptable;  
☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner, ☐ disapproved by the examiner (see explanation).
11. ☒ The proposed drawing correction, filed 22 May 2003, has been ☒ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

SN 995361

Art Unit: 2817

The disclosure is objected to because of the following informalities: Note that for the collective description of Figs. 8, 9, 10, all reference labels therein should be correspondingly described relative to the individual drawing figures in which they actually appear for consistency purposes. Appropriate correction is required.

Claims 1, 2, 5-10; 18-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, note that it is unclear if the recitation "the surface of the anode is substantially free of openings to any resonant cavities other than the anode-cathode space openings" properly characterizes the invention since no "resonant cavities" have been strictly defined and it is unclear whether "the anode-cathode space openings" themselves define "resonant cavities". It appears that since applicant has defined "waveguides" within the "anode", such waveguides can not be "resonant cavities" and hence such negative recitations appear unnecessary.

In claim 8, note that this claim appears to improperly depend from canceled claim 4.

In claim 10, note that it is unclear if the recitation that "anode-cathode space" being "located therein" (i.e. within the hollow-shape anode cylinder) is consistent with the claim 1 recitation of the "anode-cathode space" being "along a surface of the anode". Clarification is needed. Moreover, it is unclear how "a waveguide having an opening" relates the "anode-cathode space openings" recited for the "plurality of waveguides" as recited in claim 1.

Art Unit: 2817

In claims 21, 23, 24, note that it is unclear which ones of the "N...electrodes" is intended by the recitation of "the electrodes" (e.g. all, some, etc). Clarification is needed.

In claim 20, note that the recitation of "a plurality of cylindrical cages" needs to be related to the "at least one cage" as recited claim 19 from which it depends (i.e. are the "plurality of cylindrical cages" a part of the "at least one cylindrical cage").

The following claims have been found objectionable for reasons set forth below:

In claim 1, line 8, note that "formed" should be deleted as being unnecessary; lines 15, 16, note that a --,-- should follow respective occurrences of "openings"; line 20, note that --anode-cathode-- should precede "openings" for consistency of description.

In claim 20, note that "form" should be rewritten as --provide-- for clarity of description.

In claims 21, 24, should --N-- precede "electrodes" for an appropriate characterization?

In claim 23, should --N/2-- precede each occurrence of "electrode" for an appropriate characterization.

Claims 1, 2, 5-10; 18-31 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2817

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benny Lee whose telephone number is (703) 308 4902.

  
BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

B. Lee

August 6, 2003